

FIPS 201 Evaluation Program - Graphical Personalization Test Procedure

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1 Overview

Homeland Security Presidential Directive-12 (HSPD-12) - "*Policy for a Common Identification Standard for Federal Employees and Contractors*" directed the promulgation of a new Federal standard for a secure and reliable form of identification issued by all Federal Agencies to their employees and contractors.

In addition to derived test requirements developed to test conformance to the NIST standard, GSA has established interoperability and performance metrics to further determine product suitability. Vendors whose products and services are deemed to be conformant with NIST standards and the GSA interoperability and performance criteria will be eligible to sell their products and services to the Federal Government.

1.1 Identification

This document provides the detailed test procedure that needs to be executed by the Lab in order to evaluate the Graphical Personalization Service Provider (henceforth referred to as the Service) against the subset of applicable requirements that need to be tested for this category.

2 Testing Process

As previously mentioned, this document prescribes detailed test steps that need to be executed in order to test the requirements applicable for this category. Please note that conformance to the tests specified in this document will not result in the Product or Service being compliant to the applicable requirements of FIPS 201. The Product or Service must undergo an evaluation using all the evaluation criteria listed for that category prior to being deemed as compliant. Only products and services that have successfully completed the entire Approval Process will be designated as conformant to the Standard. To this effect, this document only provides details for the evaluation using the Lab Test Data Report approval mechanism.

A Lab Engineer follows the steps outlined below in order to test those requirements that have been identified to be tested. The end result is a compilation of the observed graphically personalized features of the submitted PIV Card in the Lab Test Data Report.

Section 3 provides the test procedures that need to be executed for evaluating the Service as conformant to the requirements of FIPS 201.

3 Test Procedure for Graphical Personalization

3.1 Requirements

The following table provides a reference to the requirements that need to be tested within the Lab as outlined in the Approval Procedures document for the Product and Service.

The test cases that are used to check compliance to the requirements are cross-referenced in the table below.

Identifier #	Requirement Description	Source	Test Case #
GP.7	Incorporation of security features shall: a. Be in accordance with durability requirements of ISO-7810 b. Be free of defects, such as fading and discoloration c. Not obscure printed information d. Not impede access to machine-readable information	FIPS 201, Section 4.1.2	GP-TP.1
GP.8	The PIV Card shall not be embossed.	FIPS 201, Section 4.1.3	GP-TP.1
GP.9	Decals shall not be adhered to the card.	FIPS 201, Section 4.1.3	GP-TP.1
GP.10	Zone 1—Photograph. The photograph shall be placed in the upper left corner as depicted in Figure 4-1	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.11	Zone 2—Name. The full name, or alternatively, pseudonyms as provided under the law, shall be printed directly under the photograph.	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.12	Zone 2—Name. The name shall be printed in capital letters.	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.13	Zone 2—Name. The font shall be a minimum of 10 point.	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7

GP.14	Zone 8—Employee Affiliation. A printed employee affiliation shall be printed on the card. Some examples of employee affiliation are “CONTRACTOR”, “ACTIVE DUTY,” and “CIVILIAN.”	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.15	Zone 10— Organizational Affiliation. The Organizational Affiliation shall be printed as depicted in Figure 4-1.	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.16	Zone 14—Expiration Date. The card expiration date shall be printed in a YYYYMMDD format.	FIPS 201, Section 4.1.4.1	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.17	Zone 1—Agency Card Serial Number. This item shall contain the unique serial number from the issuing department or agency.	FIPS 201, Section 4.1.4.2	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.18	Zone 2—Issuer Identification. This item shall consist of six characters for the department code, four characters for the agency code, and a five-digit number that uniquely identifies the issuing facility within the department or agency.	FIPS 201, Section 4.1.4.2	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.19	Zone 3—Signature. If used, the space for the signature shall not interfere with the contact and contactless placement.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.7
GP.20	Zone 4—Agency Specific text area. If used, [No requirement]	FIPS 201, Section 4.1.4.3	GP-TP.5 GP-TP.6
GP.21	Zone 5—Rank. If used, the cardholder’s rank shall be printed in the area as illustrated.	FIPS 201, Section 4.1.4.3	GP-TP.5 GP-TP.7
GP.22	Zone 6—Portable Data File (PDF) Two-Dimensional Bar Code. If used, the PDF bar code placement shall be as depicted in the diagram (i.e., left side of the card).	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.6
GP.23	Zone 9— Header. If used, the text “United	FIPS 201, Section	GP-TP.4

	States Government” shall be placed as depicted in Figure 4-1.	4.1.4.3	GP-TP.5
GP.24	Zone 9— Header. If used, departments and agencies may choose to use this zone for other department or agency-specific information, such as identifying a Federal emergency responder role, as depicted in Figure 4-2.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.5
GP.25	Zone 11—Agency Seal. If used, the seal selected by the issuing department, agency, or organization shall be printed in the area depicted.	FIPS 201, Section 4.1.4.3	GP-TP.4
GP.26	Zone 11—Agency Seal. If used, it shall be printed using the guidelines provided in Figure 4-2 to ensure information printed on the seal is legible and clearly visible.	FIPS 201, Section 4.1.4.3	GP-TP.4
GP.27	Zone 12—Footer. If used, a department or agency may print “Federal Emergency Response Official” as depicted in Figure 4-2.	FIPS 201, Section 4.1.4.3	GP-TP.5
GP.28	Zone 12—Footer. If used, the departments or agency may also print a secondary line in Zone 9 to further identify the Federal emergency respondent’s official role. Some examples of official roles are “Law Enforcement, “Firefighter” and “Emergency Response Team (ERT)”.	FIPS 201, Section 4.1.4.3	GP-TP.5
GP.29	Zone 13—Issue Date. If used, the card issuance date shall be printed above of the expiration date in YYYYMMDD format as depicted in Figure 4-2.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.7
GP.30	Zone 15—Color-Coding for Employee Affiliation. If used, color-coding shall be used as a background color for Zone 2 (name) as depicted in Figure 4-4.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.5 GP-TP.6
GP.31	Zone 15—Color-Coding for Employee Affiliation. If used, the following color scheme shall be used for the noted categories: a. Blue—foreign nationals b. Red—emergency responder officials	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.5 GP-TP.6

	c. Green—contractors		
GP.32	Zone 15—Color-Coding for Employee Affiliation. If used, blue, red and green shall be reserved color-codes and shall not be employed for other purposes.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.5 GP-TP.6
GP.33	Zone 16—Photo Border for Employee Affiliation. If used, the photo border shall not obscure the photo.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.5 GP-TP.7
GP.34	Zone 16—Photo Border for Employee Affiliation. If used, red shall be reserved for emergency response officials, blue for foreign nationals, and green for contractors. All other colors may be used at the department or agency’s discretion.	FIPS 201, Section 4.1.4.3	GP-TP.4 GP-TP.5 GP-TP.7
GP.35	Zone 17—Agency Specific Data. If used, Zone 17 may display other department or agency-specific information, as depicted in Figure 4-5. [Note that Zone 17 overlaps Zone 3 and Zone 12, and is only available if these other zones are not used.]	FIPS 201, Section 4.1.4.3	GP-TP.6
GP.36	The card material shall withstand the effects of temperatures required by the application of a polyester laminate on one or both sides of the card by commercial off-the-shelf (COTS) equipment.	FIPS 201, Section 4.1.3	GP-TP.1
GP.37	Cards shall not delaminate after hand cleaning with a mild soap and water mixture.	FIPS 201, Section 4.1.3	GP-TP.2
GP.38	Zone 4—Return To. If used, the “return if lost” language shall be generally placed on the back of the card as depicted in Figure 4-7.	FIPS 201, Section 4.1.4.4	GP-TP.5
GP.39	Zone 5—Physical Characteristics of Cardholder. If used, the cardholder physical characteristics (e.g., height, eye color, hair color) shall be printed in the general area illustrated in Figure 4-7.	FIPS 201, Section 4.1.4.4	GP-TP.5
GP.40	Zone 6—Additional Language for Emergency Responder Officials. If used, this additional text shall not interfere with other printed text components or machine-readable	FIPS 201, Section 4.1.4.4	GP-TP.5 GP-TP.7

	components.		
GP.41	Zone 7—Standard Section 499, Title 18 Language. If used, standard Section 499, Title 18, language warning against counterfeiting, altering, or misusing the card shall be printed in the general area depicted in Figure 4-7.	FIPS 201, Section 4.1.4.4	GP-TP.5 GP-TP.6
GP.42	Zone 8—Linear 3 of 9 Bar Code. If used, a linear 3 of 9 bar code shall be generally placed as depicted in Figure 4-7.	FIPS 201, Section 4.1.4.4	GP-TP.5
GP.43	Zone 8—Linear 3 of 9 Bar Code. If used, a linear 3 of 9 bar code shall be in accordance with Association for Automatic Identification and Mobility (AIM) standards.	FIPS 201, Section 4.1.4.4	GP-TP.5
GP.44	Zone 8—Linear 3 of 9 Bar Code. If used, beginning and end points of the bar code will be dependent on the embedded contactless module selected.	FIPS 201, Section 4.1.4.4	GP-TP.5
GP.45	Zone 9, Zone 10—Agency-Specific Text. If used, Zone 9 may display other department or agency-specific information, as depicted in Figure 4-8. [Note that Zones 9 and 10 overlaps Zone 6 and Zone 7, and is only available if these other zones are not used.]	FIPS 201, Section 4.1.4.4	GP-TP.4 GP-TP.6 GP-TP.7
GP.46	Unless otherwise specified, the recommended font size is 5pt normal weight for data labels (also referred to as tags).	FIPS 201, Section 4.1.4.4	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.47	Unless otherwise specified, the recommended font size is 6pt bold for actual data.	FIPS 201, Section 4.1.4.4	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7
GP.48	All text is to be printed using the Arial font.	FIPS 201, Section 4.1.4.4	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7

GP.49	The thickness added due to a laminate layer shall not interfere with the smart card reader operation.	FIPS 201, Section 4.1.3	GP-TP.2
GP.50	The card material shall allow production of a flat card in accordance with ISO 7810 after lamination of one or both sides of the card.	FIPS 201, Section 4.1.3	GP-TP.1
GP.51	Zone areas printed on PIV Cards shall be precisely placed in position using the measurements defined by FIPS 201.	Derived	GP-TP.3 GP-TP.4 GP-TP.5 GP-TP.6 GP-TP.7

Table 1 - Applicable Requirements

3.2 Test Components

Table 2 provides the details of all the components required by the Lab to execute this test procedure. Based on the different test cases, different components may be required to execute different test cases.

#	Component	Component Details	Identifier
1	PCARD (5 Nos)	Graphically personalized PIV Cards in accordance to Appendix A of the Card Printer Station Approval Procedure	PCARD-1 to PCARD-5
2	Contact Card Reader	Gemalto GemPC Twin USB HW111459A	READER-C
3	Contactless Card Reader	Integrated Engineering SmartLogon Pro 01SMR-4120	READER-CL
4	1 Gallon Bucket or Container	-	BUCKET
5	1 Tablespoon	-	TABLESPOON
6	A liquid Measuring Cup	-	CUP
7	Water	-	WATER
8	Mild Dish Soap	e.g. Dawn, Pamolive, Joy	SOAP
9	Paper Towels	-	TOWEL
10	Graphical Layout Templates	Measurement templates provided with the Approval Procedure	TEMPLATES

Table 2 - Test Procedure: Components

3.3 Test Cases

This section discusses the various test cases that are needed to test the populated PIV Card against the requirements mentioned above.

3.3.1 Test Case GP-TP.1

3.3.1.1 Purpose

The purpose of this test is to verify whether the PIV Cards submitted satisfy the security feature requirements stated in FIPS 201 and cards are not embossed nor have decals adhered.

3.3.1.2 Test Setup

Equipment :	The following components are necessary for executing this test case: <ul style="list-style-type: none"> PCARD-1 to PCARD-5
Preparation	<ul style="list-style-type: none"> None

3.3.1.3 Test Process

Test Steps:	<ol style="list-style-type: none"> Using all of the cards submitted for evaluation, check the following requirements against the cards to ensure compliance with FIPS 201. <ol style="list-style-type: none"> Verify that the security feature is not discolored, faded, cracked or creased. Verify that the printed information on the card can be easily read from a distance of three feet. Verify that the cards submitted are not embossed. Verify that decals are not adhered to the cards. Verify by visual inspection that a flat card has been produced after lamination by placing each card, both face up and face down, on a flat table and noting any bending or warping that is observed. In this scenario, flatness is determined if surface is without slope, tilt or curvature, and in which no part is higher or lower than another. One of the methods to determine flatness is if no light passes in between the table and the card once the card is placed on the table.
Expected Result(s):	The cards submitted satisfy the requirements listed for the security feature, the cards are not embossed and decals are not adhered and the card visually appears to be flat, when placing the card on a flat table.

3.3.2 Test Case GP-TP.2

3.3.2.1 Purpose

The purpose of this test is to verify whether after the PIV Cards have been laminated, if the added thickness interferes with the operation of a smart card reader and if the card delaminates after a soap and water test.

3.3.2.2 Test Setup

Equipment :	<p>The following components are necessary for executing this test case:</p> <ul style="list-style-type: none"> ▪ BUCKET ▪ TABLESPOON ▪ CUP ▪ WATER ▪ SOAP ▪ TOWEL ▪ PCARD-1 to PCARD-5 ▪ READER-CL ▪ READER-C
Preparation	<ul style="list-style-type: none"> ▪ Measure eight (8) CUPS of lukewarm WATER and pour into BUCKET. ▪ Measure three (3) TABLESPOONS of SOAP and pour into BUCKET ▪ Mix the solution for approximately 30 seconds

3.3.2.3 Test Process

Test Steps:	<ol style="list-style-type: none"> 1. Using all of the cards submitted for evaluation, check the following requirements against the cards to ensure compliance with FIPS 201. <ul style="list-style-type: none"> • Card Thickness <ol style="list-style-type: none"> a. Using PCARD-1 to PCARD-5 and READER-C, insert each card into the reader and verify that it is not difficult or impossible to insert or remove the smart card from the reader. b. Using READER and READER-CL, verify that the ATR is able to be read via the contact and contactless interfaces of the cards. <p>Card Delamination</p> <ol style="list-style-type: none"> a. Using PCARD-1 to PCARD-5, submerge each of them in the soapy water solution and gently wash the card for 30 seconds.
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	<ul style="list-style-type: none"> b. Using a towel, pat each card completely dry. c. Using READER and READER-CL, verify that the ATR is able to be read via the contact and contactless interfaces of the cards.¹
Expected Result(s):	The cards submitted do not interfere with the operation of a smart card reader and the ATR is able to be read from each card after both tests.

3.3.3 Test Case GP-TP.3

3.3.3.1 Purpose

The purpose of this test is to verify whether PIV Card #1, which has been submitted conforms to the printed specifications as defined in Appendix A of the Graphical Personalization approval procedure.

3.3.3.2 Test Setup

Equipment :	<p>The following components are necessary for executing this test case:</p> <ul style="list-style-type: none"> ▪ PCARD-1 ▪ TEMPLATES
Preparation	<ul style="list-style-type: none"> ▪ None

3.3.3.3 Test Process

Test Steps:	<ol style="list-style-type: none"> 1. Using PCARD-1 submitted for evaluation, check the following requirements against the cards to ensure compliance with FIPS 201. <p>Fonts</p> <ul style="list-style-type: none"> • <i>Typeset</i> <ul style="list-style-type: none"> – All text on the card is printed in the Arial font. • <i>Data Labels</i> <ul style="list-style-type: none"> – All data labels, such as “Affiliation” and “Issued”, are printed at 5pt normal weight. • <i>Printed Data</i> <ul style="list-style-type: none"> – Unless superseded by another requirement, all data printed on the card shall be printed at 6pt bold. <p><u>Example:</u></p> <p>Agency/ Department General Services Administration</p>
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¹ Any tool that allows APDUs to be sent and received from a smart card may be used to perform this test.

	<p>Issued 20061027</p> <p>MANDATORY FIELDS</p> <p>Front of Card</p> <ul style="list-style-type: none"> • <i>Zone 1</i> <ul style="list-style-type: none"> – This field contains the cardholder’s photograph, placed in the upper left corner as depicted in Figure 4-1. • <i>Zone 2</i> <ul style="list-style-type: none"> – This field contains the full name, or pseudonyms, printed directly under the photograph. – This field contains the cardholder’s name, printed in capital letters at a minimum of 10 point font. <p><u>Example:</u> Doe, John, G.</p> • <i>Zone 8</i> <ul style="list-style-type: none"> – This field contains the employee’s affiliation. • <i>Zone 10</i> <ul style="list-style-type: none"> – This field contains the Organization Affiliation, printed as depicted in Figure 4-1. • <i>Zone 14</i> <ul style="list-style-type: none"> – This field contains the expiration date of the card printed in the format YYYYMMDD. <p>Back of Card</p> <ul style="list-style-type: none"> • <i>Zone 1</i> <ul style="list-style-type: none"> – This field contains the unique Agency Card Serial Number from the issuing Agency. This field is left justified and typed in Arial 6pt bold. <p><u>Example:</u> 000111222333444555</p> • <i>Zone 2</i> <ul style="list-style-type: none"> – This field contains the issuer identification in the following format: six (6) characters for the department code, four (4) characters for the agency code, five (5) digit number that uniquely identifies the issuing facility. This field is right justified and typed in Arial 6pt bold. <p><u>Example:</u> 000000111122222</p>
Expected Result(s):	The test has verified the presence of the mandatory fields, and any optional fields if printed.

3.3.4 Test Case GP-TP.4

3.3.4.1 Purpose

The purpose of this test is to verify whether PIV Card #2, which has been submitted conforms to the printed specifications as defined in Appendix A of the Graphical Personalization approval procedure.

3.3.4.2 Test Setup

Equipment :	The following components are necessary for executing this test case: <ul style="list-style-type: none"> ▪ PCARD-2 ▪ TEMPLATES
Preparation	<ul style="list-style-type: none"> ▪ None

3.3.4.3 Test Process

Test Steps:	<ol style="list-style-type: none"> Using PCARD-2 submitted for evaluation, check the following requirements against the cards to ensure compliance with FIPS 201 <p>Fonts</p> <ul style="list-style-type: none"> • <i>Typeset</i> <ul style="list-style-type: none"> – All text on the card is printed in the Arial font. • <i>Data Labels</i> <ul style="list-style-type: none"> – All data labels, such as “Affiliation” and “Issued”, are printed at 5pt normal weight. • <i>Printed Data</i> <ul style="list-style-type: none"> – Unless superseded by another requirement, all data printed on the card shall be printed at 6pt bold. <p><u>Example:</u></p> <pre> Agency/ Department General Services Administration Issued 20061027 </pre> <p>MANDATORY FIELDS</p> <p>Front of Card</p> <ul style="list-style-type: none"> • <i>Zone 1</i> <ul style="list-style-type: none"> – This field contains the cardholder’s photograph, placed in the upper left corner as depicted in Figure 4-1. • <i>Zone 2</i> <ul style="list-style-type: none"> – This field contains the full name, or pseudonyms, printed directly under the photograph. – This field contains the cardholder’s name, printed in capital letters at a minimum of 10 point font. <p><u>Example:</u></p>
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	<p>Doe, John, G.</p> <ul style="list-style-type: none"> • <i>Zone 8</i> <ul style="list-style-type: none"> – This field contains the employee’s affiliation. • <i>Zone 10</i> <ul style="list-style-type: none"> – This field contains the Organization Affiliation, printed as depicted in Figure 4-1. • <i>Zone 14</i> <ul style="list-style-type: none"> – This field contains the expiration date of the card printed in the format YYYYMMDD. <p>Back of Card</p> <ul style="list-style-type: none"> • <i>Zone 1</i> <ul style="list-style-type: none"> – This field contains the unique Agency Card Serial Number from the issuing Agency. This field is left justified and typed in Arial 6pt bold. <p><u>Example:</u> 000111222333444555</p> <ul style="list-style-type: none"> • <i>Zone 2</i> <ul style="list-style-type: none"> – This field contains the issuer identification in the following format: six (6) characters for the department code, four (4) characters for the agency code, five (5) digit number that uniquely identifies the issuing facility. This field is right justified and typed in Arial 6pt bold. <p><u>Example:</u> 000000111122222</p> <p>OPTIONAL FIELDS</p> <p>Front of Card</p> <ul style="list-style-type: none"> • <i>Zone 3</i> <ul style="list-style-type: none"> – The signature can be printed in this area, such that it does not interfere with the contact and contactless ICC placement. • <i>Zone 6</i> <ul style="list-style-type: none"> – The Portable Data Format Two-Dimensional Bar Code can be placed in this area, only as depicted in Figure 4-2. • <i>Zone 9</i> <ul style="list-style-type: none"> – The text “United States Government” should be printed in this area. • <i>Zone 11</i> <ul style="list-style-type: none"> – The seal of the issuing department, agency or organization can be printed in this area such that it is legible and clearly visible. • <i>Zone 13</i> <ul style="list-style-type: none"> – The issuance date of the card can be printed in this area, such that the format is YYYYMMDD. • <i>Zone 15</i>
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	<ul style="list-style-type: none"> – The color-coding scheme can be printed in this area, such that it is used as a background color for Zone 2. – Employee Affiliation color-coding schemes adhere to: <ul style="list-style-type: none"> a. Blue – Foreign Nationals b. Red – Emergency Responder Officials c. Green – Contractors – Color-coding schemes are not used for purposes other than listed above. • <i>Zone 16</i> <ul style="list-style-type: none"> – Photographs that have a border, match the Employee Affiliation color-coding scheme. Other colors may be used at the Agency’s discretion. – Photo borders do not obscure the photo. <p>Back of Card</p> <ul style="list-style-type: none"> • <i>Zone 9</i> <ul style="list-style-type: none"> – This field can contain agency specific text as depicted in FIPS 201, Figure 4-8. • <i>Zone 10</i> <ul style="list-style-type: none"> – This field can contain agency specific text as depicted in FIPS 201, Figure 4-8.
Expected Result(s):	The test has verified the presence of the mandatory fields, and any optional fields if printed.

3.3.5 Test Case GP-TP.5

3.3.5.1 Purpose

The purpose of this test is to verify whether PIV Card #3, which has been submitted conforms to the printed specifications as defined in Appendix A of the Graphical Personalization approval procedure.

3.3.5.2 Test Setup

Equipment :	<p>The following components are necessary for executing this test case:</p> <ul style="list-style-type: none"> ▪ PCARD-3 ▪ TEMPLATES
Preparation	<ul style="list-style-type: none"> ▪ None

3.3.5.3 Test Process

Test Steps:	<ol style="list-style-type: none"> 1. Using PCARD-3 submitted for evaluation, check the following requirements against the cards to ensure compliance
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with FIPS 201

Fonts

- *Typeset*
 - All text on the card is printed in the Arial font.
- *Data Labels*
 - All data labels, such as “Affiliation” and “Issued”, are printed at 5pt normal weight.
- *Printed Data*
 - Unless superseded by another requirement, all data printed on the card shall be printed at 6pt bold.

Example:

Agency/ Department
General Services Administration
Issued
20061027

Mandatory Fields

Front of Card

- *Zone 1*
 - This field contains the cardholder’s photograph, placed in the upper left corner as depicted in Figure 4-1.
- *Zone 2*
 - This field contains the full name, or pseudonyms, printed directly under the photograph.
 - This field contains the cardholder’s name, printed in capital letters at a minimum of 10 point font.

Example:

**Doe,
John, G.**

- *Zone 8*
 - This field contains the employee’s affiliation.
- *Zone 10*
 - This field contains the Organization Affiliation, printed as depicted in Figure 4-1.
- *Zone 14*
 - This field contains the expiration date of the card printed in the format YYYYMMDD.

Back of Card

- *Zone 1*
 - This field contains the unique Agency Card Serial Number from the issuing Agency. This field is left justified and typed in Arial 6pt bold.

Example:

000111222333444555

- *Zone 2*
 - This field contains the issuer identification in the following

format: six (6) characters for the department code, four (4) characters for the agency code, five (5) digit number that uniquely identifies the issuing facility. This field is right justified and typed in Arial 6pt bold.

Example:

000000111122222

OPTIONAL FIELDS

Front of Card

- *Zone 4*
 - Any Agency specific text can be printed in this area.
- *Zone 5*
 - The cardholder's rank is printed in this area. (Note: This field should not vary more than 0.2 mm from the template)
- *Zone 9*
 - The text "Fire Fighter" should be printed in this area.
- *Zone 12*
 - The text "Federal Emergency Response Official" should be printed in this area.
- *Zone 15*
 - The color-coding scheme can be printed in this area, such that it is used as a background color for Zone 2.
 - Employee Affiliation color-coding schemes adhere to:
 - a. Blue – Foreign Nationals
 - b. Red – Emergency Responder Officials
 - c. Green – Contractors
 - Color-coding schemes are not used for purposes other than listed above.
- *Zone 16*
 - Photographs that have a border, match the Employee Affiliation color-coding scheme. Other colors may be used at the Agency's discretion.
 - Photo borders do not obscure the photo.

Back of Card

- *Zone 4*
 - The "Return To" information can be printed in this area.
- *Zone 5*
 - Physical characteristics of the cardholder, such as height, eye color, etc., can be printed in this area.
- *Zone 6*
 - Additional language for Emergency Responder Officials can be printed in this area such that it does not interfere with other printed or machine-readable components.
- *Zone 7*
 - The Standard Section 499, Title 18 language warning

	<p>against counterfeiting, altering, or misusing the card can be printed in this area.</p> <ul style="list-style-type: none"> • <i>Zone 8</i> <ul style="list-style-type: none"> – The linear 3 of 9 bar code can be printed in this area such that it is placed as depicted in Figure 4-7. – The linear 3 of 9 bar code, if used, is in accordance with the Association for Automatic Identification and Mobility standards. – The beginning and end points of the bar code, if used, can change position depending on the placement of the embedded contactless module.
Expected Result(s):	The test has verified the presence of the mandatory fields, and any optional fields if printed.

3.3.6 Test Case GP-TP.6

3.3.6.1 Purpose

The purpose of this test is to verify whether PIV Card #4, which has been submitted, conforms to the printed specifications as defined in Appendix A of the Graphical Personalization approval procedure.

3.3.6.2 Test Setup

Equipment :	<p>The following components are necessary for executing this test case:</p> <ul style="list-style-type: none"> ▪ PCARD-4 ▪ TEMPLATES
Preparation	<ul style="list-style-type: none"> ▪ None

3.3.6.3 Test Process

Test Steps:	<ol style="list-style-type: none"> 1. Using PCARD-4 submitted for evaluation, check the following requirements against the cards to ensure compliance with FIPS 201 <p>Fonts</p> <ul style="list-style-type: none"> • <i>Typeset</i> <ul style="list-style-type: none"> – All text on the card is printed in the Arial font. • <i>Data Labels</i> <ul style="list-style-type: none"> – All data labels, such as “Affiliation” and “Issued”, are printed at 5pt normal weight. • <i>Printed Data</i>
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- Unless superseded by another requirement, all data printed on the card shall be printed at 6pt bold.

Example:

Agency/ Department
General Services Administration
 Issued
20061027

MANDATORY FIELDS**Front of Card**

- *Zone 1*
 - This field contains the cardholder's photograph, placed in the upper left corner as depicted in Figure 4-1.
- *Zone 2*
 - This field contains the full name, or pseudonyms, printed directly under the photograph.
 - This field contains the cardholder's name, printed in capital letters at a minimum of 10 point font.

Example:

**Doe,
 John, G.**

- *Zone 8*
 - This field contains the employee's affiliation.
- *Zone 10*
 - This field contains the Organization Affiliation, printed as depicted in Figure 4-1.
- *Zone 14*
 - This field contains the expiration date of the card printed in the format YYYYMMDD.

Back of Card

- *Zone 1*
 - This field contains the unique Agency Card Serial Number from the issuing Agency. This field is left justified and typed in Arial 6pt bold.

Example:

000111222333444555

- *Zone 2*
 - This field contains the issuer identification in the following format: six (6) characters for the department code, four (4) characters for the agency code, five (5) digit number that uniquely identifies the issuing facility. This field is right justified and typed in Arial 6pt bold.

Example:

000000111122222

OPTIONAL FIELDS**Front of Card**

- *Zone 4*

	<ul style="list-style-type: none"> – Any Agency specific text can be printed in this area. • <i>Zone 6</i> <ul style="list-style-type: none"> – The Portable Data Format Two-Dimensional Bar Code can be placed in this area, only as depicted in Figure 4-2. • <i>Zone 15</i> <ul style="list-style-type: none"> – The color-coding scheme can be printed in this area, such that it is used as a background color for Zone 2. – Employee Affiliation color-coding schemes adhere to: <ul style="list-style-type: none"> a. Blue – Foreign Nationals b. Red – Emergency Responder Officials c. Green – Contractors – Color-coding schemes are not used for purposes other than listed above. • <i>Zone 17</i> <ul style="list-style-type: none"> – Agency-specific information can be printed in this area. <p>Back of Card</p> <ul style="list-style-type: none"> • <i>Zone 7</i> <ul style="list-style-type: none"> – The Standard Section 499, Title 18 language warning against counterfeiting, altering, or misusing the card can be printed in this area. (Note: This field should not vary more than 0.2 mm from the template) • <i>Zone 10</i> <ul style="list-style-type: none"> – This field contains the Organization Affiliation, printed as depicted in Figure 4-1. (Note: This field should not vary more than 0.2 mm from the template)
Expected Result(s):	The test has verified the presence of the mandatory fields, and any optional fields if printed.

3.3.7 Test Case GP-TP.7

3.3.7.1 Purpose

The purpose of this test is to verify whether PIV Card #5, which has been submitted conforms to the printed specifications as defined in Appendix A of the Graphical Personalization approval procedure.

3.3.7.2 Test Setup

Equipment :	<p>The following components are necessary for executing this test case:</p> <ul style="list-style-type: none"> ▪ PCARD-5 ▪ TEMPLATES
Preparation	<ul style="list-style-type: none"> ▪ None

3.3.7.3 Test Process

Test Steps:	<ol style="list-style-type: none"> Using PCARD-5 submitted for evaluation, check the following requirements against the cards to ensure compliance with FIPS 201 <p>Fonts</p> <ul style="list-style-type: none"> <i>Typeset</i> <ul style="list-style-type: none"> All text on the card is printed in the Arial font. <i>Data Labels</i> <ul style="list-style-type: none"> All data labels, such as “Affiliation” and “Issued”, are printed at 5pt normal weight. <i>Printed Data</i> <ul style="list-style-type: none"> Unless superseded by another requirement, all data printed on the card shall be printed at 6pt bold. <p><u>Example:</u></p> <p>Agency/ Department General Services Administration Issued 20061027</p> <p>MANDATORY FIELDS</p> <p>Front of Card</p> <ul style="list-style-type: none"> <i>Zone 1</i> <ul style="list-style-type: none"> This field contains the cardholder’s photograph, placed in the upper left corner as depicted in Figure 4-1. <i>Zone 2</i> <ul style="list-style-type: none"> This field contains the full name, or pseudonyms, printed directly under the photograph. This field contains the cardholder’s name, printed in capital letters at a minimum of 10 point font. <p><u>Example:</u></p> <p>Doe, John, G.</p> <ul style="list-style-type: none"> <i>Zone 8</i> <ul style="list-style-type: none"> This field contains the employee’s affiliation. <i>Zone 10</i> <ul style="list-style-type: none"> This field contains the Organization Affiliation, printed as depicted in Figure 4-1. <i>Zone 14</i> <ul style="list-style-type: none"> This field contains the expiration date of the card printed in the format YYYYMMDD. <p>Back of Card</p> <ul style="list-style-type: none"> <i>Zone 1</i>
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	<ul style="list-style-type: none"> – This field contains the unique Agency Card Serial Number from the issuing Agency. This field is left justified and typed in Arial 6pt bold. <u>Example:</u> 000111222333444555 • <i>Zone 2</i> <ul style="list-style-type: none"> – This field contains the issuer identification in the following format: six (6) characters for the department code, four (4) characters for the agency code, five (5) digit number that uniquely identifies the issuing facility. This field is right justified and typed in Arial 6pt bold. <u>Example:</u> 000000111122222 <p>OPTIONAL FIELDS</p> <p>Front of Card</p> <ul style="list-style-type: none"> • <i>Zone 3</i> <ul style="list-style-type: none"> – The signature can be printed in this area, such that it does not interfere with the contact and contactless ICC placement. • <i>Zone 5</i> <ul style="list-style-type: none"> – The cardholder's rank is printed in this area. • <i>Zone 13</i> <ul style="list-style-type: none"> – The issuance date of the card can be printed in this area, such that the format is YYYYMMDD. • <i>Zone 16</i> <ul style="list-style-type: none"> – Photographs that have a border, match the Employee Affiliation color-coding scheme. Other colors may be used at the Agency's discretion. – Photo borders do not obscure the photo. • <i>Zone 17</i> <ul style="list-style-type: none"> – Agency-specific information can be printed in this area. <p>Back of Card</p> <ul style="list-style-type: none"> • <i>Zone 6</i> <ul style="list-style-type: none"> – Additional language for Emergency Responder Officials can be printed in this area such that it does not interfere with other printed or machine-readable components. • <i>Zone 10</i> <ul style="list-style-type: none"> – This field can contain agency specific text as depicted in FIPS 201, Figure 4-8. (Note: This field should not vary more than 0.2 mm from the template)
Expected Result(s):	The test has verified the presence of the mandatory fields, and any optional fields if printed.